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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,464	06/23/2003	Masahiro Kawaguchi	CFO17339US	3975

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CANON U.S.A. INC. INTELLECTUAL PROPERTY DIVISION
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EXAMINER

FORMAN, BETTY J

ART UNIT	PAPER NUMBER
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1634

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/602,464	Applicant(s) KAWAGUCHI, MASAHIRO	
	Examiner BJ Forman	Art Unit 1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) 3-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 16-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL ACTION

Status of the Claims

1. This action is in response to papers filed 10 March 2009 in which claims 1 and 18 were amended. The amendments have been thoroughly reviewed and entered.

The previous rejections in the Office Action dated 10 October 2008, not reiterated below, are withdrawn in view of the amendments. Applicant's arguments have been thoroughly reviewed and are discussed below as they apply to the instant grounds for rejection. New grounds for rejection, necessitated by the amendments, are discussed.

Claims 1-2 and 16-18 are under prosecution.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-2 and 16-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-2 and 16-17 are indefinite in Claim 1, lines 3-4 for the recitation "a nucleic acid probe immobilized in an array on a surface of the substrate". The recitation is confusing because an array, by definition comprises multiple elements. However, the claim is drawn to one probe. It is unclear how one, single probe can be immobilized in an array.

Claims 1-2 and 16-17 are further indefinite in Claim 1, line 5 for the recitation "said probess" because the recitation lacks proper antecedent basis in the "probe" of line 3.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 18 is rejected under 35 U.S.C. 102(e) as being anticipated by Goldman et al (U.S. Patent Application Publication No. 2003/0072685, filed 11 October 2001).

Regarding Claim 18, Goldman et al disclose a heat conduction adapter (i.e. top plate #100), the adapter comprising a first face (bottom of plate #100) having a plurality of legs (#104) having the same shape as microtubes and a second face (top of plate #100) for contacting a surface of a glass slide. Goldman further teaches the plurality of legs on the bottom of plate #100 are fitted into the holes of a heater (base plate #106) (¶ 19-29 and Fig. 1-6). Goldman illustrates the top of plate #100 has a planar surface, thereby providing the "flat" surface as claimed.

It is noted that Goldman does not teach the glass slide is a nucleic acid probe array. However, the instant claim does not define the device having the array. The

Art Unit: 1634

claim merely defines an intended use for the heat conduction adapter i.e. using a heater..... in temperature control for a nucleic acid probe array."

The courts have stated that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). Because Goldman teaches the heat conduction adapter is configured for use with a glass slide, the reference is deemed to teach all the structural requirements of the claim.

Response to Arguments

6. Applicant argues that Goldman teaches an top plate has many recesses but does not teach the a flat surface as newly claimed. The argument has been considered but is not sufficient to overcome the rejection. As noted above, the top surface of plate #100 has a planar surface as evidenced by the fact that Goldman teaches the plate is "adapted to accommodate a glass slide" (¶ 20). The newly defined flat surface does not exclude the flat surface having recesses. For all the above reasons, the top surface of plate #100 is encompassed by newly claimed flat surface. It is maintained that Goldman anticipates the device as claimed.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1634

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman et al (U.S. Patent Application Publication No. 2003/0072685, filed 11 October 2001) in view of Atwood et al (U.S. Patent No. 5,364,790, issued 15 November 1994).

Regarding Claim 1, Goldman et al disclose a reaction system comprising a glass substrate, and a heat conduction member in contact with the substrate (i.e. top plate #100), a temperature control block (i.e. base plate #106, ¶ 1-2 and 9-11) wherein the base plate has a plurality of holes for inserting microtube-sized projects from top plate (Fig. 4-6) wherein the heat conducting member comprises a first face(bottom of plate #100) having a plurality of legs (#104) having the same shape as microtubes and a second face (top of plate #100) for contacting a surface of a glass slide wherein the legs are fitted into the holes of a heater thereby filling the holes of the temperature control block (base plate #106) (¶ 19-21 and Fig. 1-2) and wherein the heat conducting member is formed of a metal resin composite (¶ 27). Goldman illustrates the top of plate #100 has a planar surface, thereby providing the "flat" surface as claimed. Goldman does not teach the glass substrate comprises an array of nucleic acid probes.

However, Atwood et al teach a reaction system for nucleic acid amplification comprising a glass slide substrate comprising a plurality of primers (Column 2, lines 51-67) and a cover for forming a chamber (Column 17, lines 52-63). Atwood et al further teach a heat conducting member in contact with the slide wherein a plurality of holes

Art Unit: 1634

(grooves, #116 in plate #110) are filled with a heat conducting liquid member so as to be in contact with the back surface of the slide and be in heating contact with the heat block (Fig. 14-15, Column 14, line 52-Column 15, line 26).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the heat conducting member and liquid of Atwood to the reaction device of Goldman. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success and for the benefit of adapting a commercially available thermocycler for PCR on a flat surface and eliminating any need for additional equipment for PCR.

Regarding Claim 2, Goldman et al teach the system wherein the heat block is adaptable for a microtube (§ 20).

Regarding Claim 16, Goldman et al teach the system wherein the heat conducting member is formed of a metal resin composite (§ 27).

Regarding Claim 17, Atwood et al teach a reaction system for nucleic acid amplification comprising a glass slide substrate comprising a plurality of primers (Column 2, lines 51-67) and a cover for forming a chamber (Column 17, lines 52-63). Atwood et al further teach a heat conducting member in contact with the slide wherein a plurality of holes (grooves, #116 in plate #110) are filled with a heat conducting liquid member so as to be in contact with the back surface of the slide and be in heating contact with the heat block (Fig. 14-15, Column 14, line 52-Column 15, line 26).

Response to Arguments

9. Applicant reiterates the argument that Goldman does not teach a flat surface. The argument is not found persuasive because, as stated above, the top surface of plate #100 is flat and therefore encompassed by the claimed invention.

Applicant further argues that Atwood does not cure the deficiencies of Goldman. The argument is not sufficient to overcome the above rejection because Goldman is not deemed deficient.

Conclusion

10. No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Schultz can be reached on (571) 272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BJ Forman
Primary Examiner
Art Unit 1634

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